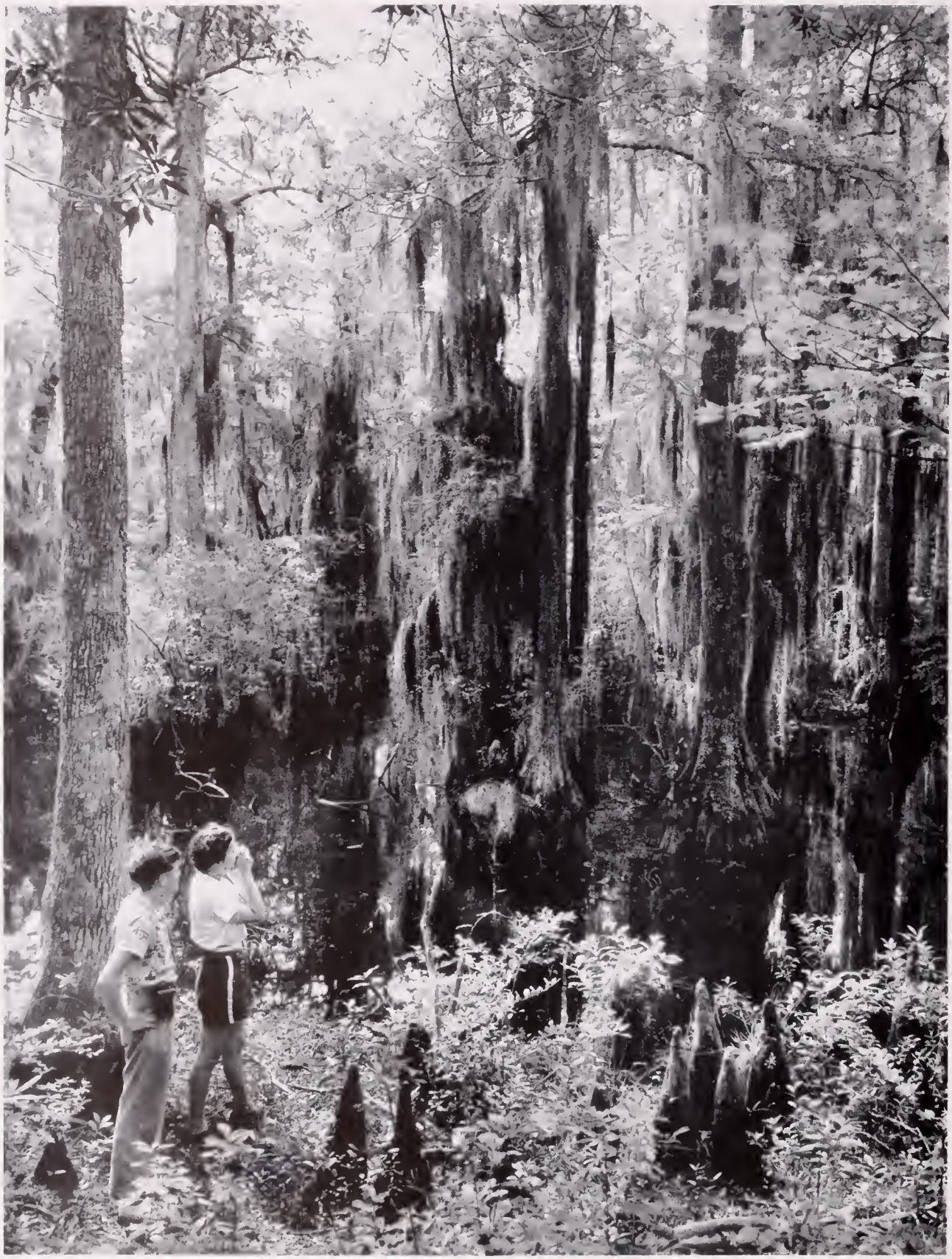
VIRGINIA WILDLIFE

AUGUST, 1955

VOLUME XVI Price 15 cents NUMBER 8



Virginia Conservation Comm. Photo

Cypress with hanging moss semi-tropic land near Cape Henry.

VIRGINIA WILDLIFE

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, Richmond 13, Virginia

A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia

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Cover

Some insects are cannibals. They eat one another. This praying mantis is such an enemy to harmful insects that some nurseries have praying mantis eggs for sale and welcome them as a control measure for harmful insects.

Commission Photo by Kesteloo

PUBLICATION OFFICE: Commission of Game and Inland Fisheries, 7 North Second Street, Richmond 13, Virginia

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FLORENCE BLANKENSHIP, *Circulation*

SUBSCRIPTIONS: One Year, $1.00; two years $1.50; three years, $2.00. Remittances by check or money order to be made payable to the Treasurer of Virginia. Local game wardens will accept subscriptions or they may be forwarded direct to Commission of Game and Inland Fisheries, 7 North Second Street, Richmond 13, Virginia.

VIRGINIA WILDLIFE is published monthly at Richmond 13, Virginia, by the Commission of Game and Inland Fisheries, 7 North Second Street. All magazine subscriptions, change of address notices, and inquiries should be sent to the Commission, P.O. Box 1642, Richmond, Virginia. The editorial office gratefully receives for publication news items, articles, photographs, and sketches, of good quality, and other materials which deal with the wise use and management and study of Virginia's inter-related, renewable resources: soils, water, forests and wildlife. Because of pressure of editorial duties, however, the Commission cannot be held responsible for unsolicited manuscripts and illustrative material. Since wildlife is a beneficiary of the work done by state and federal land-use agencies in Virginia, editorial policy provides for full recognition of their accomplishments and solicitations of their contributions. Credit is given on material published. Permission to reprint is granted provided proper credit is given the Virginia Commission of Game and Inland Fisheries and VIRGINIA WILDLIFE and proper clearances are made with authors, photographers, artists and publishers.

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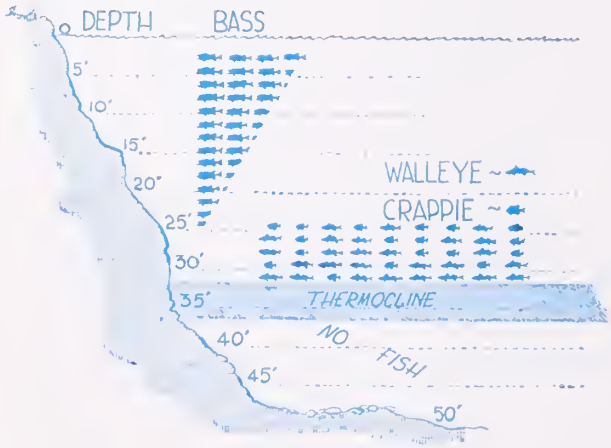
SUMMER BASS FISHING IN VIRGINIA

Any attempt to tell the reader about the bass fishing in Virginia in the summertime must of necessity be a general treatment. There are so many places where one may go, so many different conditions under which fish can be caught, and so many variables that affect both fish and fishing, that only highlights can be covered in a short review of this kind.

In my travels and talks over the state, many anglers invariably come up and ask two questions: where can I go that's not too far and get some bass fishing? And, secondly, where are the fish biting these days?

Well, the answer to the first question is not too difficult since good bass water is found almost everywhere in the state. The second is something else again. Fish bite because they are hungry and the angler who goes after them with this thought in mind and puts his lure where the fish are feeding is bound to get his reward. But one thing at a time.

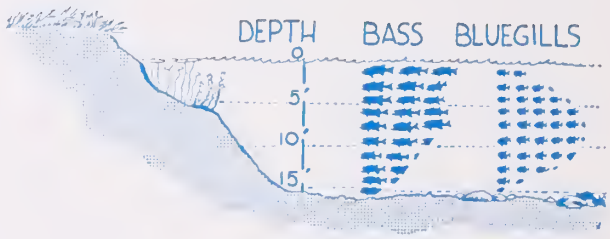
Looking over the state as a whole, I believe it must be admitted that the best bass fishing for largemouths is to be had in the Tidewater. There is some fishing of course in the Piedmont and there is some good bass fishing in spots in the mountain areas. In the latter the fishing is largely restricted to farm ponds, Commission ponds and lakes, and the major engineering impoundments. In the coastal plain area, however, the terrain and waters are such that the largemouth black bass finds this section particularly ideal.



In deep lakes few warm water fish are found below the so-called *thermocline*. Don't fish too deep.

Back Bay without a doubt is one of the finest bass areas in the state. But in the summertime the bass are apt to be a bit finicky and unless one knows the area well and is familiar with where the fish are, a trip to the area can be disappointing. Best fishing is in spring and fall. This 25,000-acre area is so vast and so full of fish that it can absorb a tremendous amount of fishing pressure and go begging. Surveys show that the slightly brackish bay area is considerably under-fished and could stand a 100 per cent increase in fishing without harm.

The slightly brackish waters of the James River area and the major rivers that empty into Chesapeake Bay attract bigmouth bass in great quantity. Rivers like the



In the shallow lakes where there is plenty of wind action bass and bluegills will be found at various depths.

Chickahominy, Mattaponi, Pamunkey, Rappahannock, Piankatank, Occoquan are great hangouts for bigmouths. Fishing with popping bugs is particularly good in these waters as they seem to be a little cooler than those of inland ponds and lakes, with the tide ebbing and flowing constantly. The so-called *thermocline area* (the sharp-changing temperature zone below which few fish appear) is noticeably absent here and there is little opportunity for temperature stratification. This favors fish. Bass start feeding heavily at 60 degrees Fahrenheit and in well-fed, oxygen-laden waters they have a tendency to take on extra zest in life.

But let's not get off the subject and dwell more on where to go.

The Commission's restocking list, which is available upon request from the Richmond office, lists over 150 public places where bass fishermen can find fish. Nearly all of these waters have been stocked at one time or another with bass by the Game Commission. At the present time there are 13 Commission owned and controlled fishing lakes in the state and another 8 state park lakes. Conditions will be such shortly that good public fishing waters will be within easy driving distance of everyone who wants to fish.

Something should be said now about the major impoundments which are creating a wonderful opportunity for sport fishing in areas where few waters formerly existed. The perfectly huge Buggs Island Lake can absorb all the fishing pressure that Virginia can throw at it and more. Bass fishing is improving and crappie fishing is tops. Bass fishing is also improving in Philpott and crappie fishing there is excellent. Both large and smallmouth bass continue to be taken out of Holston

(*Continued on page 12*)

"From time immemoriol, the seven-mile length of Cobb's Islond hos been the home of gulls, terns, ond shorebirds."

COBB'S ISLAND THROUGH FIFTY YEARS

By ALEXANDER SPRUNT, JR.

All photographs by the author, unless otherwise noted.

The Atlantic seaboard from New Jersey to Florida is fringed by a series of long, narrow islands, referred to in the southern region as barrier beaches. Some are hardly more than stretches of sand, grown in rank grasses and shrubs, lined on the ocean front with shifting dunes and bordered behind with salt marshes. Others support densely luxuriant jungles of pine, magnolia, live-oak, and bay, twined with smilax, jessamine, and wild grape vines; some are several miles long and a mile or so wide.

Certain of these islands bulk largely in both secular and natural history. Cape Hatteras for instance, with its adjacent "banks," is respected and feared by seamen by reason of its often tempestuous violence of wind and sea, long since having gained the ominous label of the "Graveyard of Ships." Bull's Island, just south of South Carolina's Cape Romain, was the spot on which Englishmen first set foot on Carolinian soil in the spring of 1670. Sullivan's Island, at the edge of Charleston's harbor, was the site of that famed fort of palmetto logs which, under the command of the patriot William Moultrie, beat off Sir Peter Parker's British Fleet in 1776 and gave new life to the American Revolution. The "Golden Isles" of Georgia have resounded to the thunder of pirate guns and the phantom blockade runners slipped to sea from them in our troubled 1860's. And, even in our day, many a low-lying beach with its dunes and bordering woods was watched through the periscopes of German U-boats.

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As dominant as these windswept and lonely barriers have been in man's activities both in peace and war, they are hardly less so in nature's history.

Bird cities have long flourished on many of them; deer and turkeys roam the jungle growth; otters and alligators roll and bask in placid lagoons; ghostly sand-crabs scuttle amid the dunes and the giant sea turtles lumber ashore through the surf when the full moon comes in June, to lay their myriad eggs among the sands.

Man's violence has been pitted against these island dwellers as well as against himself. The plume-hunter, the commercial egg-collector, and the market-gunner ran riot over dune and marsh to bring death and destruction to graceful, long-winged birds. Perhaps no one of these barrier beaches and its animal life has quite the history of man's ill treatment and subsequent rehabilitation through protection than Cobb's Island, a few miles north of the Virginia Capes.

Named for the family which has owned it for generations, it is a close neighbor to almost exactly similar Cardwell's and Wreck Islands, all of them about four or five miles offshore from the little fishing village of Oyster, some 10 miles north of Cape Charles on Virginia's Eastern Shore.

From time immemorial, the seven-mile length of Cobb's Island has been the home of terns, gulls, and shorebirds of several species. In the early days of this century it was far better known to the plumer, egger, and market-shooter than to bird students, but its reputation even then was recognized by ornithologists. One

The exquisite least tern was disappearing all alang the caast." Photagraph by Allan D. Cruickshank.

Both the rayal and least terns again came ta their ancestral nesting sites, and mare and mare bird-watchers came ta see them."

"On the Audubon Wildlife Taurs to Cabb's Island in 1940, my san Sandy (above) was an assistant, then anly 12 years ald."

"The Audubon Wildlife Taurs, begun in 1940, are systematically canducted trips by statian wagan and baat to extraordinarily interesting wildlife areas."

man more than any other brought it to the public notice, just as he did so much to popularize birds over the country - the late Dr. Frank M. Chapman. Realizing its great worth and regretting the devastation being wrought there by commercialism, he determined to preserve at least a segment of what it was, by gathering information, bird specimens, and plants for the then almost unknown type of museum exhibition, the "habitat group." To that end, he went to Cobb's Island in July of 1902* and the result *of his studies and work* came into being as one of the earliest habitat groups in the American Museum of Natural History in New York City.

It seemed to Dr. Chapman that the portrayal of bird-life on Cobb's Island was a matter of preserving a vanishing bit of natural history, for considering the slaughter which had gone on, it could not last much longer. Who could have then foreseen that plume-hunting, egg-collecting, and market-hunting would be outlawed? Many doubtless hoped so, but it seemed hardly more than a desirable dream. It was the same story regarding the egrets farther south. While working on his plans for the group, Dr. Chapman also made a study of the black skimmer which nested abundantly on Cobb's Island, and was not under the persecution directed against terns and gulls. Little was then known about this remarkably specialized bird and its way of life. Chapman's findings and photographs of the species are embodied in his "Camps and Cruises of An Ornithologist," published by D. Appleton and Company, New York City, 1908.

When Chapman was working at Cobb's Island the nesting species were besides the black skimmer - the willet, oystercatcher, Wilson's plover, clapper rail, laughing gull, the common, Forster's, and gull-billed terns, and the seaside sparrow. The royal and least terns which had formerly been nesting there had been wiped out. Dr. Chapman was told by Mr. E. B. Cobb, the island's owner, that he (Cobb) together with a helper, had killed as many as 2,800 terns in three days! These were packed in ice and sent to the New York markets for 10 cents each. The exquisite tern was disappearing all along the coast for it seemed especially attractive to the milliners, often being worn "entire" on women's hats. The long, pointed wings and forked tails of the royal tern were almost as popular. Chapman's habitat group seemed just in time to preserve these terns for others to see.

But - a brighter day was coming. Not many years after the group was first exhibited, came the winning of the battle to outlaw the wearing of wild bird plumage in this country. The efforts of many were rewarded, the constant work of individuals and organizations such as the National Audubon Society was truly a triumph of that constantly engaging struggle - the protection and conservation of American wildlife. The law against shooting the terns and the egrets came barely in time to save them. Following it, there began an increased interest in the sport and study of bird-watching, a pur-

*See "THE BIRD-LIFE OF COBB'S ISLAND," by Frank M. Chapman, BIRD-LORE, July-August, 1903.

suit which has grown today into a countrywide pastime. Warden protection at the seabird colonies began to show its effects. Slowly the all but vanished terns began to reappear and again to lay their eggs among the sands. Both the royal and least terns again came to their ancestral nesting sites and more of the ever-increasing army of bird-watchers began to journey to the barrier beaches to see them. Cobb's Island had long seemed to be the northern limit for several "southern" beach birds, notably the oystercatcher, Wilson's plover, and black skimmer. Since Cobb's Island was much nearer to the centers of population in the Northeast than more distant southern colonies, it gained in attracting a steadily increasing number of bird students and ornithologists generally.

In 1940 the National Audubon Society instituted its now famous Audubon Wildlife Tours project, at Okeechobee, Florida. These, together with others in that state, are systematically conducted trips by station-wagon and boat to extraordinarily interesting wildlife areas. The success of the first venture at Okeechobee lead the Society to set up and conduct tours at Cobb's Island, and in June and July of 1940 I was so engaged. Our headquarters were established at Eastville, Virginia, and a station-wagon used for transportation to Oyster, from which point the boat left for Cobb's Island. Audubon Warden Milton Doughty, responsible for protection in that area, was the captain, engineer, and crew, assisted by my son "Sandy,"* then 12 years old.

Our day was spent among the seabirds of the various islands of the Cobb's group, many of our town people seeing a nesting colony for the first time. We took adequate care to create a minimum of disturbance among the nesting birds and the avian dwellers of the cities in the sand seemed not to resent our intrusion. Adults, eggs, and young were studied to advantage and even the landbirds of the general area were not overlooked, since the drive from Oyster to Eastville was always a "landbird" trip.

We made 13 trips to Cobb's Island and they ended in mid-July as the nesting season was then about over. Visitors on these tours came from 12 states and the District of Columbia, for a total of 102 persons. We saw 115 bird species for the season and we lost not a day through adverse weather.

The Cobb's Island colonies have continued to do well. Indeed, very definite improvement among colonial nesting seabirds and shorebirds has been noted along the coast generally, and several species once reaching their northern limit in the area, have progressed steadily up the coast. For example, the black skimmer now nests on the southern shore of New England in Connecticut and both the willet and oystercatcher nest north into New Jersey.

Surely, this famous island which has witnessed so much of man's greed in the past, may well be taken as an example of what a determined effort at conservation

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Photograph by Allan D. Cruickshank, N.A.S.

"Cobb's Island had long seemed the northern limit for the oystercatcher"

Photograph by Allan D. Cruickshank, N.A.S.

"Dr. Chapman made a study of the black skimmers, which nested abundantly on Cobb's Island."

"A steadily increasing number of bird students and ornithologists came to see the nesting Wilson's plover."

Game Conservation Fundamentals

Breeding Potential

(The second in a series of articles)

THE average pair of our bobwhite quail in Virginia produces a clutch of about 14 eggs each season. If all these 14 eggs hatched, and if the young birds all lived until the following spring, the breeding stock would be increased from the original pair to 16, or eight pairs. If each of these eight pairs were as successful in raising their broods as the original pair, the breeding birds would number 128 by the end of the second breeding season. In another year, if this continued, there would be 1,024 descendants of the first pair, and at the end of the fourth year our original "average pair" of bobwhites would have increased to 8,192.

Is there any habitat so favorable for bobwhite that the birds actually do increase in such a manner? Obviously there is not, for as any sportsman knows, the number of birds to be found on a given farm or in a certain area of brush-land is pretty nearly the same from year to year. However, this theoretical rate at which the birds could increase, this *breeding potential* of the species, does give us a very convenient starting point from which we can determine the number of birds which we can expect to be present on a particular piece of land. The breeding potentials for other wildlife species can easily be determined.

But never do we succeed in producing on a given piece of land more than a minute portion of the wildlife populations theoretically possible. Certain influences or factors, such as nest destruction, infant mortality, disease, predators, lack of food, hunting, and other factors prevent all but a small percentage of our theoretically possible production from surviving through until the following breeding season.

When we think of our rather stable wildlife populations as representing a point of balance between the forces of reproduction inherent in the game and the resisting forces which make up the environment, it becomes obvious that game management will involve the control of one or both of these forces. We might increase our wildlife, or produce a shootable surplus of game, either by increasing the natural breeding rate of the species, or by controlling some of the environmental factors, thus allowing the natural breeding potential to assert itself to better advantage. At present, we do not have the knowledge which we need to change the natural breeding potential of any wild bird or other animal, although under artificial conditions, as on game farms, we can increase the breeding potential of certain species like the bobwhite quail, which under game farm conditions may produce from 100 to 200 eggs per season per pair. But we cannot make a pair of wild bobwhites produce more than an average of 14 eggs in a season, and we have no way of making the average doe produce more than one or two fawns each spring. Many of the environmental factors, however, can be effectively controlled, and modern game management programs are primarily concerned with the proper manipulation of such factors.

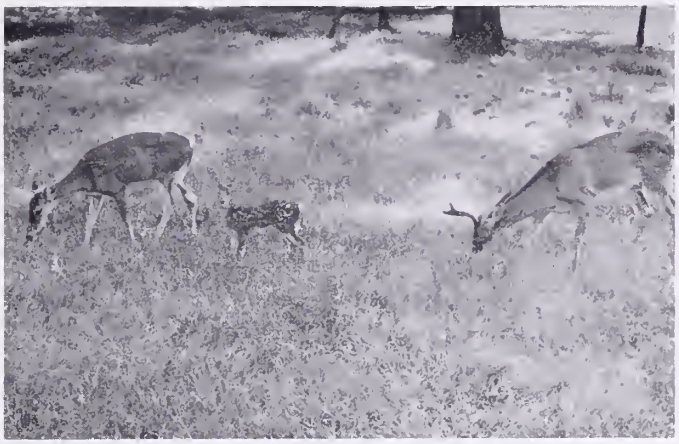
The making and enforcing of hunting regulations is our way of controlling one of the factors of environmental resistance — the hunting factor. Hunting regulations make up an important part of any game management program, in that through bag limits, closed season, and restrictions on methods by which game may be taken we are sometimes able to keep the annual kill below the annual increase and thus preserve our supply of brood stock.

Proper control of predators, such as Cooper's hawks, is sometimes justified, but it should be remembered that all predatory species are not necessarily serious destroyers of valuable wildlife.

The control of vegetation so that the wildlife will find proper amounts and proper kinds of food and cover at all times is one of the most important, and often one of the most difficult, aspects of wildlife conservation. The proper kinds of cover for resting, sleeping, feeding, escaping enemies, and raising young must be provided if we wish to allow a species' breeding potential to assert itself. Food must be available in all seasons, for wildlife must eat 365 days a year, and just a few days with no food available will make an otherwise suitable habitat unfit for any form of wildlife.

Our knowledge of the tremendous breeding potential possessed by most species of wildlife has an important bearing on our attitude toward restocking hunting grounds with artificially-raised game. We know that if a certain farm has a covey of 16 quail in the spring, there would be 128 birds present in the fall if the

The average pair of bobwhite quail in Virginia produces a clutch of about 14 eggs each.



Restocking and protection were two key management tools used in Virginia's deer restoration program.

farm contained an "ideal habitat" for bobwhite. If, however, this farm will support only 20 birds, only 20 of the 128 "potential" quail will actually materialize. If 4 additional quail were liberated to go with the original 16, and the farm would still only support 20 birds, we would receive none of the advantage of their powerful breeding potential. How much better it would be to spend the same amount of time and money making the habitat more nearly "ideal," and allowing the birds' natural increase to restock suitable coverts!

There is one more practical application to be made concerning breeding potential and its effect on population trends. Consider for a moment the problem facing the Virginia Commission of Game and Inland Fisheries when the present deer restoration program was begun in the western part of the state. Here were thousands of acres of forest land which had once been excellent deer habitat. For centuries the deer had lived here, a balance having been reached between the animal's breeding rate and the factors of environmental resistance. There came a time, however, when uncontrolled hunting and the use of improper methods of hunting caused too great a loss of each year's brood stock. The environmental drag became too heavy, and in most places the deer were completely wiped out.

In restoring deer to this large area, the first important step to be taken was to make the area suitable deer range. In this particular case this could be done by properly controlling the hunting factor, which was the most important single factor in destroying the former herds. Once the range was made habitable once more, it was necessary to restock the range with deer imported from other states, for the original herds had been so completely wiped out that no deer remained for brood stock.

Now figure out the breeding potential of whitetail deer, assuming that the does produce an average of 1.5 fawns per year. It is easily seen that the population will not tend to jump up immediately as did the quail population which we spoke of before. The increase will be rather slow at first, and will become greater as the size of the herd increases. The force exerted by the breeding potential of deer is very great, but only when a sizeable herd has been established. If one buck and one doe were released, after two years there would only be about 5 deer in the herd if nothing happened to any of the animals during that time. In another year, under ideal circumstances, there might be 8 deer — a very slow increase, even assuming that none of the deer were destroyed by natural enemies or accidents. Under actual conditions, it is rather doubtful that a single pair of deer would ever be able to reproduce fast enough to establish a herd in the face of the environmental resistance which they would encounter.

Compare this rate of increase with that which could take place after the herd was built up to 200 animals. Theoretically, a herd of 200 deer could increase to 400 in 2 years. In another year the herd, under ideal conditions, could reach 600 mark. From 600 our theoretical herd could reach 1400 in 2 more years. Now the full force of the breeding potential of the species is being exerted!

From this line of reasoning, then, the technique of "mass plantings" has been worked out. This technique is merely based on the knowledge that when artificial restocking is necessary, the larger the release the more effective the restocking will be and the quicker the stock will become established and begin to show results. Single pairs of deer released at widely separated points have little chance of establishing new herds, and if they are successful, such establishment will be very slow. On the other hand, 50 pairs released at a single point will have a fine chance of taking hold immediately and overcoming environmental resistance through the greatly increased force of their breeding potential.

In summarizing our brief discussion of breeding potential, the following facts seem to stand out:

(1) Every species of wildlife has a definite "breeding potential," which depends upon its breeding habits, and which expresses the maximum rate at which that species could increase in an ideal environment where none of the individuals would ever be destroyed.

(2) The usual stable population of a game species represents a compromise between the breeding potential and the resistance of the environment to the unimpeded increase of the species.

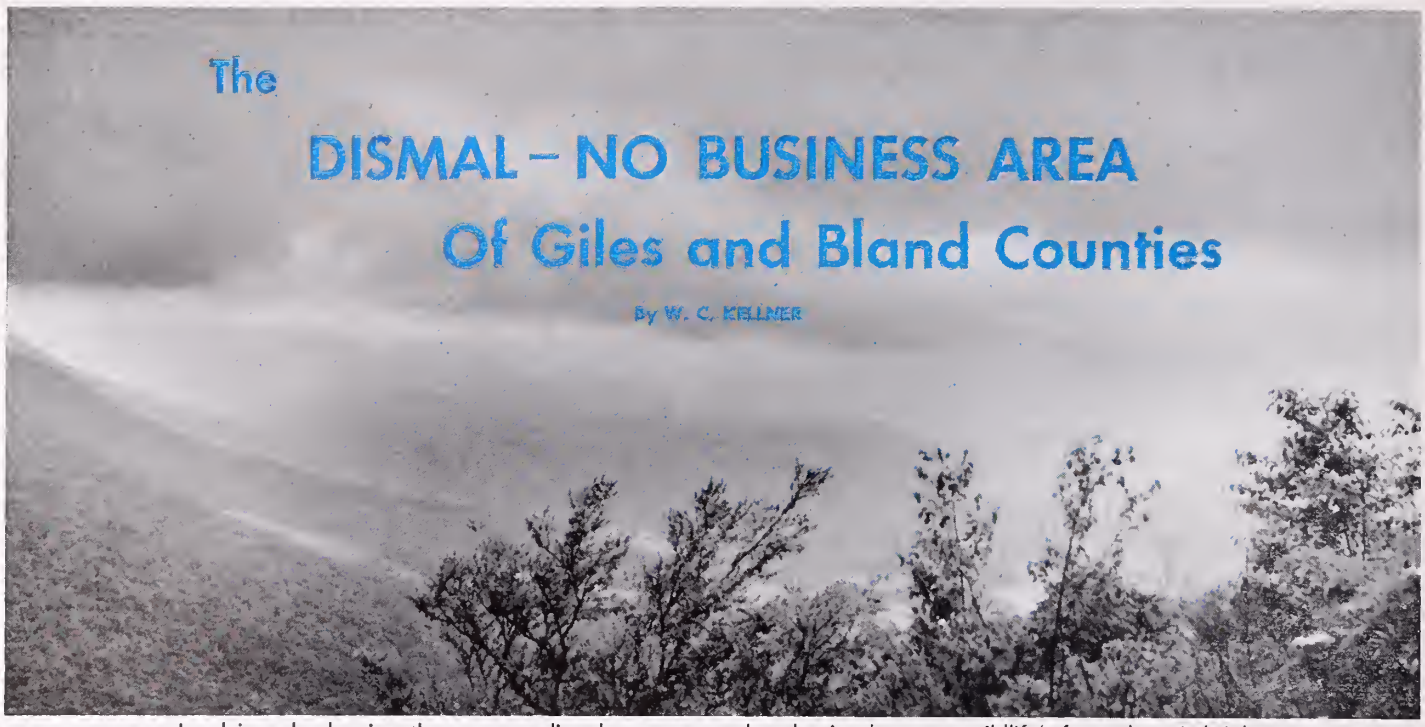
(3) We know no practical way to change the breeding potential of any species in the wild. Our game management work, therefore, is confined largely to controlling the factors of environmental resistance.

(4) When sufficient brood stock is present, the great breeding potential exhibited by most species makes the additon of more breeding stock less important than environmental improvement.

(5) In restocking a species of comparatively low breeding potential, it is much more effective to make a few large releases than numerous small and scattered releases.

The DISMAL – NO BUSINESS AREA Of Giles and Bland Counties

By W. C. KELLNER



Low-lying clouds give the area a dismal appearance but despite the name, wildlife's future here is bright.

Commission Photos by Kesteloo

THE wild mountain area of the DISMAL-NO BUSINESS GAME MANAGEMENT UNIT is being developed by nature and man into a paradise for forest-dwelling wildlife. The unit gets its name from the two clear mountain streams that drain a major portion of the watershed.

This boundary is located on the Thomas Jefferson National Forest in the rugged Allegheny Mountains of southwest Virginia. The area includes some 23,000 acres of Bland and Giles Counties and is mostly forested. From a wildlife standpoint the unit is naturally abundant with excellent cover for forest game species. Potentially this is one of the most productive browse areas in Virginia and should produce one of our healthier deer herds.

The watershed is drained by Dismal Creek, No Business Creek, Mill Creek, and their tributaries, the waters of which are clear and cool, harbor native brook trout and the introduced rainbow trout.

The soil in general is shallow, rocky and low in lime content as indicated by the extensive growth of the Squaw huckleberry. This plant furnishes abundant food in season for several forms of wildlife and is used extensively as a food by the wild turkey, ruffed grouse, and raccoon. In the mountain coves and valleys the soil is rich and produces many valuable food plants including two plantations of the introduced Chinese-chestnut.

The mountains are covered with mixed conifers and hardwoods and are situated in the oak-chestnut forest region. There are numerous dead chestnut snags remaining as reminders of the once great chestnut stands that existed over the area. The blight of the American chestnut destroyed an important wildlife food source and no doubt reduced the carrying capacity for wild animals in the forested sections.

During the dry summer of 1938 a raging forest fire burned over much of the area. This fire was fed by the dry slash left on the forest floor as the result of intensive and reckless logging which was done prior to the time it came under the protection of the U. S. Forest Service. During the fire much of the timber in the rich valley coves was destroyed. On the steep slopes, however, many of the now mature trees survived; they are today producing mast crops that are important as food supplies for both mammals and birds. Shrubby-vegetation and young tree growth in the severely burned areas is at present in the right stage of development to produce excellent cover and browse. In places it is so thick that penetration by man is difficult if not impossible.

Forest ranger E. F. Walcott of the Wythe ranger district and game biologist John H. McLaughlin of the Game Commission are working together to develop this unit. They are striving constantly to improve the habitat and develop it to support more wildlife. For instance, twelve new forest clearings have been opened to let the life-producing sun get into the forest floor. Sixteen old log landings, 7 abandoned fields, 4 old saw mill sites, 2 old home sites and miles of logging roads have been seeded with the various grasses and small grains to supplement the natural food supply.

David H. White, resident game manager, is on the area daily attending to the scores of details that are always developing. Bridges must be repaired, wild-running stray dogs must be caught, trails have to be kept open, a tree blown down by the wind has to be gotten out of the road, and on occasion fishermen and hunters who are bogged down in the mud have to be pulled out. After a rain when all old tracks are blotted out, he travels the area and gives careful attention to the fresh tell-tale tracks in the sand and mud. He is able to note such things as a deer traveling with fawns by

Log jams and beaver dams formed pools that were ideal for brook and rainbow trout.

her side or where a dog has been running game. These tracks tell a story of just how the animals are getting along and alert him to what is taking place in the forest. There are no dull moments on his job and he has a deep interest in the welfare of wildlife on the unit.

These three conservationists working with others are pooling their knowledge and efforts to develop the wild area into a paradise for the sportsman. Here is an example of the cooperative effort of the U. S. Forest Service and the Commission of Game and Inland Fisheries that is functioning smoothly. This cooperative agreement has been used as a guide by other states to develop large public tracts of land into outdoor meccas for the millions of Americans who enjoy the outdoors.

National forest lands by necessity and established policy are managed on a multiple use basis. On this area watershed protection, timber sales, mining and recreation are of primary importance.

Several companies have mineral rights here and mining operations for manganese and iron ore are underway. Every effort is being made to protect the watershed from erosion and the streams from pollution. The U. S. Forest Service in its agreements stipulates that all strip mine sites must be planted with cover which includes food plants for wildlife. Settling basins must be established to keep silt from emptying into the trout streams. Ranger Walcott pointed out that good roads to inaccessible areas were being opened up as a result of the mining. Some good grouse hunting and trout fishing will be made available to more hunters and fishermen.

Timber sales are conducted for some areas but cutting is done along sound forest management principles. The old days of cut, slash, then move on, are over. At least on national forests, this wasteful and destructive logging method has ceased.

Wild animal life here is abundant. There are elk, deer, bears, raccoons, foxes, minks, weasels, skunks, woodchucks, opossums, bobcats, squirrels, beavers, rabbits, wild turkeys, grouse, a few quail, songbirds in variety, and many of the mice and shrews. The timber rattlesnake, copperhead, common water snake, and the black snake are fairly common reptiles of the area.

There is a herd of about 75 elk established as a result of restockings in 1917 and 1935. Efforts have been made in the last several years to stock deer and these animals are on the increase. With abundant food developing, these two browse eaters are prospering.

Bobcat and raccoon signs are abundant and workers on the area see occasional tracks of bear and mink. Wild turkey recently released in the area have been seen in scattered sections and everyone is anxiously awaiting reports of the sighting of a hen with her brood. Successful hatching is the first acid test of whether the turkeys

This newly made elk bed was only one of many found in one of the forest clearings.

This exclosure on a test area shows the accelerated plant growth within a fenced-off area.

are adapting themselves to their new environment. The ruffed grouse, on the other hand, are firmly established and almost daily hens with their chicks are seen sunning and dusting in the old log roads.

As this forest land develops there will be a wonderful opportunity to improve further the stocks of wildlife that are dependent upon a forest habitat. From all indications the sportsmen of Virginia can look forward to another area where they can get out-of-doors and enjoy their favorite sport in a semi-wilderness area that has scenic beauty in a variety of forms.

SUMMER BASS FISHING *(Continued from page 4)*

Lake in southwest Virginia and nice catches of smallmouth and Kentucky bass and walleye are constantly reported from Claytor Lake.

Just how the fish are apt to be biting and where they are apt to be found in the streams and ponds and lakes themselves, is more difficult to answer. In checking with the fisheries biologists, we find certain conditions true from a scientific point of view. In the shallower lakes where there is plenty of wind action bass will be found at various depths. Water temperature will not matter much, for the new axiom is, the warmer the water the hungrier the fish. The only thing to do is to get your underwater plug or your surface bug or your minnow into the areas where the fish are feeding. And they're not *always* feeding. If food is abundant they'll only feed at short periods and the wise fisherman will try to be there at those periods.

However, natural food is so abundant in summertime that competition for your lure will be infinitely less and so the tendency will be not to take as many fish. Yet with the proper choice of lures, a good knowledge of the feeding areas and habits of fish and proper technique, any persistent angler should have no difficulty making a fair catch.

In deep water, such as in big reservoir areas, a good rule to follow is: don't fish too deep. Just above the thermocline you have an area which is very conducive to walleyes and crappie and from here on to the top the bass are fairly well distributed. Bluegills will be concentrated in the upper strata.

In the shallower lakes up to 15 feet in depth, the bluegills are fairly evenly distributed in the water with their greatest concentration between 5-10 feet. Bass, however, will find their greatest concentration near the top.

These are general rules and as all fishermen know, fishing conditions are apt to vary from day to day, week to week, month to month, and in different waters. No strict rules can be laid down by any biologist, nor would fishing be so much fun if it was reduced to a mathematical formula and an established science.

So, go fishing when you can and try your best to figure out where the fish are, and, when you go, stay long enough. Don't quit after an hour. They may be biting at the next hour or the fourth hour or the eighth. First, go to places that are known to have fish so you can be sure that there are plenty there. Few places can ever be fished out by hook and line. Once there, start experimenting a little. Carry a thermometer with you and drop it into the water at different depths. At 60 degrees your fish begin feeding in earnest and the warmer the water, up to a point, the more they feed.

If the bass are smashing at bugs in the shallows and it's a hot day, don't be foolish and continue to fish in deep water. Don't be set in your ways. If you are a minnow fisherman and the bass are not taking minnows, don't be so hard-headed that you won't change to a plug or a popping bug and get what is coming to you. And above all, remember this: It is not the amount of fish that you catch that is important, but how much fun you are having, how you react to the grand sport of bass fishing. Millions of American fishermen are reacting to it each day in one way or another. With the proper frame of mind the reaction can work wonders on the body. — J. J. S.

The wilderness is a place in which man is helped to see himself in proper perspective as a part of nature.

But it is not alone the primeval wilderness we need. Closer home, we need the semi-wilderness, the commercial forest, the lake cottage in the woods, the farm woodlot, the fence row thicket, the undrained marsh, the tiny pond and the sound of water tinkling over the Beaver dam. The way to game abundance lies in preserving, creating, expanding the units of native vegetation which are, as we have seen, wilderness fragments. Their restoration can give us a more beautiful, more pleasant, more productive and more satisfying America.

Conservation is the science of man's successful living in relation to nature and her resources. We are not a thing apart, a species apart. Our habitat on earth includes the soil, the forest, the mountain, the farm, the predator and our game species . . . .

The way to game abundance is a start toward the realization that civilized man must now produce and manage the abundance which contributes to his standard of living. In America we are very fortunate. We have the opportunity, the resources, the technology for abundance of almost any sort, if we choose to apply ourselves to the task.

If we desire to maintain recreational hunting, for example, we can do so. The creation of game abundance is in our own hands, the way to game abundance is in our own doing.

(Wallace Byron Grange in *The Way to Game Abundance*)

VIRGINIA WILDLIFE

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

PARRAMORE ISLAND SAVED FOR CONSERVATIONISTS. Efforts of Executive Director I. T. Quinn, of the Commission of Game and Island Fisheries and the delegation of Eastern Shore residents whom he accompanied to Washington were successful in their protest against the acquisition of Parramore Island by the Navy as a practice bombing area. The Senate Armed Services Committee deleted the appropriation from the Public Works Bill and the House of Representatives receded from its former position and killed all hopes of the Navy acquiring the island on the Eastern Shore of Virginia for a bombing range.

SAN JUAN RABBITS PROHIBITED IN VIRGINIA. The Commission of Game and Inland Fisheries has received a number of inquiries regarding the importation of San Juan rabbits which are being raised on an island in Puget Sound in the state of Washington. This is the same rabbit which has done untold damage to crops and orchards in Australia, so the Commission has prohibited importation of the species into the state and any San Juan rabbits brought into Virginia will be confiscated.

HIGH TIDES TAKE TOLL OF CLAPPER RAIL. A Game Commission study of the effects of high tides in May and June on the clapper rail population of the Eastern Shore indicates that high tides during mid-May destroyed many nests built by this game bird in the tidal marshes and on June 8 and 9, both nests and young birds were victims of the high tides. After the completion of the survey under the supervision of R. O. Halstead, supervising warden of the Hampton Roads District, Executive Director I. T. Quinn notified the U. S. Fish and Wildlife Service of the findings which are thought to indicate that the season on these game birds should be curtailed and the bag limit lowered for the coming season.

FLUVANNA FISH POND NEAR COMPLETION. According to G. W. Buller, chief of the Fish Division of the Commission, it is expected that the public fishing pond in Fluvanna County will be completed in time for fall stocking with breeding stock of largemouth bass and bluegill bream. The Fluvanna pond will be the sixth in the Game Commission's eight-pond program authorized two years ago by the Governor. Sites of the seventh and eighth ponds have been selected and contracts will be let for their construction during the summer months, Buller says.

IWLA TO COOPERATE WITH GAME COMMISSION ON ESSAY CONTEST AGAIN. The Virginia Division of the Izaak Walton League has agreed to cooperate in the ninth annual Wildlife Essay Contest and Executive Director I. T. Quinn brought the matter before the meeting of the Commission in July. These annual contests among pupils of Virginia schools have immeasurably increased the interest of boys and girls, parents and teachers in conservation, says J. J. Shomon, chief of the Education Division of the Commission.

THREE NEW MEMBERS ADDED TO COMMISSION TECHNICAL STAFF. Nathaniel Bowman, of Lynchburg, who did his fisheries work at Virginia Polytechnic Institute, has come to the Virginia Commission as fish biologist from the U. S. Fish and Wildlife Service. Warren H. Taylor, of Grayson County, has succeeded John E. Bryant as manager of the Hog Island State Waterfowl Refuge. Danny Cantner has been added to the Special Services staff of the Education Division, with headquarters in Williamsburg.

A general view of the area with rock ledges and cliffs visible in the foreground.

A cucumber tree shows luxuriant growth and indicates a rich soil for one of the mountain coves.

A lordly bull elk, with his rack still in the velvet stage, surveys his domain.

This bull elk is alarmed and runs for cover. Note the ragginess of the hair. He is shedding his winter coat.

Clear mountain streams are useful to wildlife and some offer excellent trout fishing.

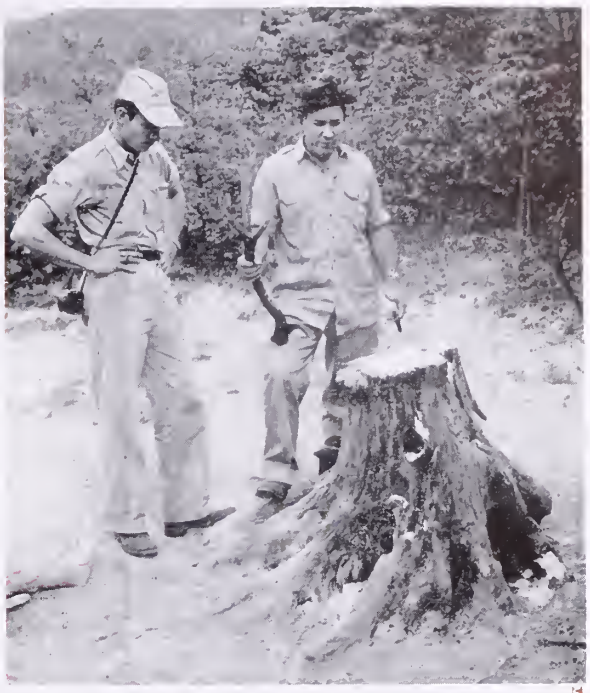
The DISMAL-NO BUSINE

Wild Mountain Country in

This unique 23,000-acre area in Virginia's Allegheny Mountains 1938 a devastating forest fire swept the area. Since the fire the C Service have been combining their efforts to restore habitat for th area. Here is a picture story of the interesting are

Commission Phe

This tree, blown down by wind, blacked a Forest Service road and had to be moved. High winds topple trees occasionally.



This salt lick is being heavily utilized by both deer and elk. Note the elk antler that was picked up near by.

elk track clearly visible in the fresh mud. A calf was following this cow elk.

One of the falls on Dismal Creek. A beautiful trout pool is visible in the foreground.

Game Management Area

nd and Giles Counties

wly developing into a wildlife paradise. In the dry summer of ission of Game and Inland Fisheries and the U. S. Forest ny forms of forest-dwelling wildlife that are natural to the what it has to offer the outdoor enthusiast.

A catch of "pan size" rainbow trout. These fish had been feeding on crayfish, snails, and various insects.

b Kesteloo

Fish Conservation Fundamentals

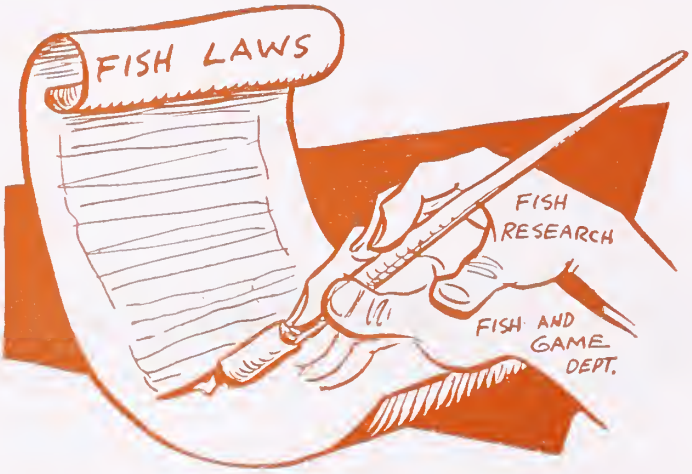
By R. W. ESCHMEYER

Vice President, Sport Fishing Institute

Regulations *(The third in a series)*

IN times past, fish laws were made with very little factual evidence to back them. We tended to put more and more restrictions on the fishing, and to increase the warden staff with the expectations of having better enforcement as a result.

The regulations usually involved size limits, closed seasons, and creel limits, though many other types of restrictions were also imposed. Some states still pass arbitrarily-made regulations, others now tend to base their laws on proven need.



BASIC CONSIDERATIONS

Here are a few basic statements which should be carefully considered in the question of fish regulations. We're referring here to hook-and-line fishing only. Commercial fishing will be discussed separately farther on.

1. Regulations should be aimed at providing a maximum number of successful fishing trips, and a fair distribution of the fish resources.

2. The fish in public waters belong to the people. Regulations should be aimed at giving the public maximum use of the fish resources.

3. Fish are a crop, and a renewable one. They should be used. If not caught within a reasonable number of years after birth, they die of natural causes. The average fish has a relatively short life span.

4. An acre of water will support only a limited poundage of fish. Regulations will not increase the potential standing crop.

5. A lake or stream which is closed to fishing furnishes no angling recreation. Waters should be kept closed only when there is definite proof that this is necessary.

6. We should have only those laws for which there is proven need. If regulations have been imposed without proof of specific need, the situation should be studied to decide what action is proper. Proof that a law is needed should be provided by the state fishery authorities. The proof should be gotten through research conducted by competent investigators.

7. The hook and line is ineffective "harvesting equipment." Our lures must compete with the natural foods. You can get a good picture of the effectiveness of the hook and line if you will "fish" for pheasants, putting a grain of corn on a hook (in pheasant country) and waiting (hidden) for a pheasant to take it!

8. Regulations imposed to preserve the brood-stock are generally not needed. A few brood fish can furnish a lot of young. Furthermore, even when a lake is "fished out" from an angler's standpoint, it usually still has a good population of brood fish left. We could understand this if we tried "fishing" for cattle in a big pasture. If the pasture were grazed to capacity, a handful of grass would soon attract a cow. But, as the caught cows were removed gradually, there would be less demand on the pasture. The grass would grow. Soon taking a cow on a handful of grass would become more difficult. Finally, it would be a rare experience because of the greater availability of natural food.

9. We fish to relax. When regulations are highly complicated, there is the constant fear that we may be breaking some laws unintentionally. Having too many laws spoils our sport.

10. Conditions change. To meet this change, the regulations should be made by the fish and game (or conservation) department. Legislatures lack flexibility, and often tend to give undue consideration to politics.

11. In the past we have tended to regulate only the fishermen. More attention should be given to regulating fish populations.

Other points might be listed, but we'll stop with the eleven mentioned above.

THE HOOK AND LINE

Sport fishing is generally limited to use of hook and line. Most other kinds of equipment may be too effective unless properly controlled. Too, it is generally assumed that hook-and-line fishing provides greater enjoyment than other kinds of equipment. Most regulations limit fishing to "hook-and-line." This is generally desirable for game fish species.

SIZE LIMITS

There is no evidence that a size limit on pan fish is desirable, and considerable evidence to suggest that such limits are undesirable. These species tend to become overabundant. If your state has size limits on sunfishes, crappie, yellow perch, white perch, bullheads, and similar pan fish, chances are that the laws are unnecessary or are doing more harm than good.

Size limits on bass and trout, and on the big predator game fish such as pickerel, pike, and muskellunge are probably beneficial in some areas and unnecessary in others. This question needs further study.

CREEL LIMITS

Creel limits have a psychological value. A person would be more satisfied with catching a limit of five fish than with catching eight fish, if the limit were ten. Saying that we caught the limit implies that we could have taken more if the law had allowed.

This leads to complications, because there is usually no justification for creel limits on pan fish, except the psychological one.

On game fish we should have creel limits on some waters, though fishing has not deteriorated in Ohio as a result of removing all creel limits some few years ago.

On very heavily fished trout waters, a very low creel limit seems desirable.

In general, the question of creel limits needs further study.

CLOSED SEASONS

We have no evidence that a closed season is needed on pan fish. Year-round fishing for these species seems desirable.

A number of states have discarded the closed season on all warmwater fish, thereby greatly increasing the fishing without adverse results.

Where we rely on put-and-take trout stocking the number of fish available is determined by the number planted. Here, there is little need for a closed season for that reason.

There are undoubtedly instances where a closed season is desirable. However, at times past, we have often had closed seasons where they were not needed.

IN GENERAL

For a while we imposed more and more restrictive legislation. Then, when we realized that in many waters most fish were uncaught, that fish are prolific, that waters have a definite carrying capacity, that the hook and line is usually too inefficient to remove all the brood-stock, and that fish have relatively short life spans, we moved in the other direction. The tendency today is to liberalize - to have fewer restrictive laws. There is ample evidence to show that this tendency is in the right direction, though there will probably be exceptions. There are instances where we may need even more rigid restrictions. For example, in some states the creel limit on trout will undoubtedly need to be reduced.

ENFORCEMENT

Laws are of little value unless folks obey them. The presence of an enforcement officer in a general area does not prevent violation if people tend to ignore the laws. This point has been well demonstrated in a portion of the southern Appalachians where I lived for a dozen years. Here, there have been enforcement officers (revenooers) for several generations, but moonshining is still a big (though admittedly hidden) industry.

The mere fact that a state has wardens (conservation officers, rangers) offers no assurance that violations will decrease. Even a doubling of the warden force will not prevent violations from taking place.

We do obey those laws which we respect. There are few people who would knowingly drive through a red traffic light, even though there was no traffic, and even though it were obvious that there was no traffic cop in the vicinity. *(Continued on page 22)*

Commission Photo by Kesteloo

The WHITE-TAILED DEER in Virginia

By STUART DAVEY

Game Biologist

The most important, plentiful and popular big game animal in North America today is the white-tailed deer. In 1953 the various states estimated their deer herds at from 25,000 to 600,000 with the total for all states coming to over four and a half million. These same states also reported a total legal kill estimated at over one half million. How many deer hunters does it take to harvest this many deer? The experience of most states would indicate that between three and four million hunters in the nation try their luck at hunting white-tails. This adds up to a high interest in just one game animal.

Scientifically, this member of the deer family (Cervidae) is known as *Odocoileus virginianus*. As his name implies the white-tailed deer was originally described in colonial Virginia, though they may be more plentiful today than in the 1600's when they were an important source of meat and leather. Both the Indians and the white settlers often depended upon this animal to help sustain life.

It is believed that a number of Virginia counties never lost their deer and as a result they may be regarded as game animals of the Old Dominion since very early times. Areas now included in the counties of Norfolk, Nansemond, Surry, Highland, Bath and Alleghany probably were never without at least a few deer and possibly other sections could be added to this list.

The lowest ebb of the deer population probably coincided with the peak of agricultural expansion which came about 50 years ago. Fortunately, it was not long thereafter before increased interest in preserving and managing the renewable natural resources of the nation changed this trend. The passage of laws protecting the doe deer (buck laws), the general wakening of the public to conservation, the public acceptance of game laws and the better enforcement of these laws all helped to bring deer back. Another very important factor was the later farm abandonment, widespread fire protection and the establishment of national forests in the state. All of this set the stage for more deer.

In our western counties, the Virginia Commission of Game and Inland Fisheries restocking program commenced in the late 1920's and continues even today in some few areas. That this program has been successful can be seen from the fact that in the last 10 years over 31,000 deer have been reported harvested by hunters from these counties where a total of about 1800 were once released and where before the stocking program less than 500 were bagged annually. Of even greater interest perhaps is that over 18,000 have been taken the past three seasons and the annual peak has not been reached yet.

With the eastern counties producing like numbers of deer, it's not hard to see why there has been such an increased interest in deer the last ten years.

LIFE HISTORY

In the Old Dominion the deer breeding season is usually in late November or early December. Many fights take place between bucks at this time and every year several reports are received of two being found dead locked together with their antlers. During the hunting

season other bucks are found with broken antler tines, many probably also the result of fighting.

After the breeding season the bucks shed their antlers during January and February and from then on until April, the main problem for all deer becomes the finding of adequate food.

With the greening of the tulip poplar and honeysuckle and certainly by the time the dogwood and oak are leafing out, most of the bucks have started to grow a new set of antlers. How large they grow and how many points they will have by fall depends largely on the food—although even in areas of poor food, the older bucks have the better antlers. The number of points, however, is no indication of the buck's age.

The fresh greens of field and forest are eagerly taken for the need is great for the bucks in their growth and especially for the doe in her preparation for fawning.

By late May, some of the fawns, weighing about five pounds, have arrived in their spotted coats and gangly legs. After a gestation period of about 200 days most of the fawns are born in early June and greet the world along with thousands of other small wildlife creatures.

The fawns are soon up with their mothers and can run like jackrabbits. By fall they have gained from 40-70 pounds.

Sometimes a doe that is only one year old will have a fawn. At fawning time, however, most of the doe deer two years old will have one fawn while those older will usually have two. This varies with the health of the deer. The greatest variation seems to be in the average number of fawns the does produce and not in the number of doe deer that have a fawn each year. It should be remembered that in a deer herd the greatest number of fawns are produced by the doe that are three years old and older. Very few deer ever live long enough to be considered old. Doe deer 12-15 years of age are usually still productive and this age is probably near the maximum of longevity.

The sex ratio of the fawns at birth is about 120 bucks for each 100 does. By fall this ratio has dropped to about

Deer restockings started in the late 1920's have produced excellent results in many western counties and continue even today in some few areas.

These dropped deer antlers have been gnawed by mice and shrews. Most of them are quickly eaten by the various rodents.

110-115 to 100 and it is believed that at the yearling stage the sex ratio of any particular fawn crop is about equal. As is the case with most mammals, the males are more expendable.

The time of the doe deer is busily spent with the fawn while the bucks are often found by themselves. Throughout the summer they grow their antlers and the soft skin covering them which is rich in blood and nutrients has a velvet appearance. Thus the origin of the phrase applying to bucks "being in velvet" at this time of year.

In September the bucks begin to rub the skin from the hardened antlers and soon enter the breeding period. Small limber trees are usually selected for the jousting buck's rubbing activities. The bark is usually damaged severely and the scars remain for a number of years if the sapling is not killed.

By late November most of the fawns are on their own and another annual cycle is about to begin.

POPULATION

In Virginia today there are 98 counties and probably not more than one or two of them are without at least occasional deer. The others have herds varying from less than a hundred to 8-10 thousand. Hunting is permitted in most counties.

For the state as a whole, there is an estimated white-tailed deer herd of close to 150,000. Even in the face of recent encroachments by man, the white-tailed deer has proven its adaptability and has succeeded widely when given protection and a little habitat to his liking.

MANAGEMENT

Wildlife is held in trust for the citizens of Virginia by the state. The Commisson of Game and Inland Fisheries was established for the management of this resource and thus has responsibility for the state's deer herds. In this management, it must satisfy the desires of well over 100,000 deer hunters and yet keep the herd numbers within the capacity of their ranges, no matter whether this capacity be limited by forest food supplies or agricultural practices.

With the recent increase in deer throughout the state, the major management factor to be dealt with concerns the question: "How many deer can we handle without getting into trouble?" Crop damage, forest reproduction loss, interference with other game species and detriment to their own physical well being are all results of deer populations reaching levels that are beyond range capacity. It is the aim of the Commission to keep the herds within their range's capacity and ability to produce top quality animals.

It is all easier said than done, however, because solution to the problems almost always hinges on periodically increased harvests of the herds through the taking of antlerless animals (does and young bucks). Sentiment is against this logical way of keeping the herds within the carrying capacity of their ranges, so the battle goes on. Unfortunately, thousands of deer may be lost to everyone before the proper regulations are either enacted or finally accepted by sportsmen and the general public. In many of Virginia's counties, antlerless deer have been taken at times since 1946. From this experience we now know that many of these same counties could be having antlerless seasons each and every year.

The deer resource in Virginia is just coming into its own. In the hunting season of 1954-55, there were 14,068 deer harvested by hunters. Adult bucks composed 10,500 of this total, while the antlerless made up about 3,568. It should be realized that of the antlerless deer harvested only about 2,800 were actually doe deer, with the balance being young bucks, and it is only the harvesting of doe deer which has any control of the herds. When the total deer harvest is made up of about equal numbers of antlered and antlerless, only then can it be said that Virginia's deer resource is approaching the ultimate in management. The next five to ten years should bring the peak in Virginia's deer herd for this present cycle of land use. The herds in many of the counties will increase and hunter interest will follow right behind. Meanwhile, the harvests should begin to level out at double the figure for 1954-55.

With all these increases, problems will increase too and some people may ask if it was really wise to assist in bringing back the deer. Obviously, those who ask have never stalked what "looked like" a 10-point buck or watched a fawn at play—or eaten venison steak.

TWO PROMOTIONS ANNOUNCED BY SPORT FISHING INSTITUTE

The Sport Fishing Institute announces the promotion of Richard H. Stroud to the post of Executive Vice President to fill the vacancy created by the sudden death of Dr. R. W. Eschmeyer. Formerly Assistant Executive Vice President, Stroud becomes the second person to hold the responsibility of guiding the fishing tackle industry's conservation program to help "shorten the time between bites." Though well aware of the tremendous task he is facing, Stroud comes well qualified to meet it. His appointment follows a two-year period of familiarization and close participation in all phases of Institute program and operations in the capacity of "right hand man" to the late Dr. Eschmeyer.

From the outset of his association with Sport Fishing Institute Stroud has served as co-editor of the *Bulletin*. He helped select the material appearing in it including feature items. He was largely responsible for compiling the annual review of *Fish Conservation Highlights*. He worked closely with his former mentor in creating and editing such other feature publications as *Fish Conservation Fundamentals, Conservation Chart, and Land, Water and Fishing*. Supervision of SFI's sport fishery research program was his responsibility as well.

Stroud's fish conservation experience dates back to 1938 when he studied food habits of several marine fishes in the Bay of Fundy. In 1940-41, he participated in the lake and stream survey work of the New Hampshire Fish and Game Department. In 1942 he joined the fishery staff of the Tennessee Valley Authority as Research Assistant to Dr. Eschmeyer, who was then in charge of TVA fish work. Stroud's intensive TVA fish population studies showed that most fish die of old age rather than being caught out by anglers. This was an important finding which, with others, led to abandonment of closed seasons on TVA waters. The studies also suggested some of the benefits that might result from controlled fluctuation of water levels.

Appointment of George S. Fichter as Assistant Executive Vice President is also announced by the Institute. Fichter recently resigned as Editor of *The Fisherman* magazine, which he helped start. Besides being editor for five years, he served on the Board of Directors and acted as a Vice President of Fisherman Press, Inc. He edited the widely acclaimed *Fisherman's Handbook*.

THE TREE

By I. T. QUINN

The majestic tree was the first temple of God and the original tabernacle of man. Beneath its spreading branches and swinging boughs man first held conscious communion with the Divine Spirit of the Universe. In its checkered shade the first off-spring of God's Creation gamboled and frolicked.

From its bursting buds and sweet scented blossoms the songbird pealed forth its first love note in the springtime, and there among its extended branches built a cozy nest for its young. From its outstretched hands the denizens of the forest took their family food supply, and from out of its virgin foliage, joining the chorus of the woodland songster, wafted the melody of an evening breeze. At its feet peeped up from the first warmth of Spring timid violets and laughing daisies.

Under its canopy and its cool and refreshing bowers, the lowing herd found rest and comfort from a day of feeding on a neighboring hillside. It cast its lengthening shadows across the limpid, sparkling waters of the babbling brook as as it raced on to join the illimitable sea.

U. S. Forest Service Photo

From its blossoms the busy bee extracts a substance which it converts into a sugar-laden product for the delectation of man. From its bounteous provisions, man takes its fruit and appropriates it as a wholesome and delicious food.

Oh, the grandeur of the tree! It builds the home where the family altar is established and where the growing child is taught the separate functions of Church and State, and receives inspiration and cultivates a holy love for the beauty in Nature and the Divinity of its creator.

It builds the Church where once a week the young and old alike may go to hear the messenger of God proclaim to the world the love of Him who trod the olive-crowned Judean hills and later died on Calvary's brow that you and I might live.

It builds the school house where each boy and girl may go daily to receive instruction at the fountain of a superior knowledge.

It builds the ship which carries on the commerce of the world and makes neighbors out of widely separated nations. It contributes the mast from which unfurls to the breeze of every clime the glorious flag of freedom—the Stars and Stripes of our own great Republic.

From its roots and branches is extracted healing balms which medical skill, through research and investigation, discovered and every day administers to the languishing, inoculating their bodies with health, vigor and happiness.

From it science has extracted pulp and converted it into paper upon which the news of the world is carried daily to the teeming millions of the earth.

There is nothing of which the finite mind can possibly conceive which contributes so largely and continuously to the comfort and happiness of man as the majestic tree. Its very leaves purify the air he breathes. And at last when he has finished his course and "lies down to pleasant dreams" the giant tree contributes the simple casket which stores his mortal coil away until the final Resurrection.

FISH CONSERVATION (*Continued from page 17*)

Not long ago we witnessed a case where a drunken driver crashed into a car and then sped away from the scene of the accident. Folks who saw the accident immediately pursued the hit-and-run driver and caught him, holding him until the state police arrived. They didn't wait for the enforcement officers to do the job - they took action immediately. The public will not tolerate hit-and-run driving.

It all adds up to one thing. We obey a law if we believe in it. If we don't believe in a law, we tend to ignore it even though an enforcement officer might be somewhere in the county (though obviously not in sight at the time of the violation).

We want to be well thought of, that's human nature. If it's unpopular to violate, we'll tend not to do so. If we want less violation, we sportsmen can bring it about; the warden alone, without our active support, can do very little.

For years we felt that the answer lay in employing more and more fish and game "cops," whose sole duty was to detect violation of the fish and game laws and to make arrests. We now realize that this system is of limited value, and that the number of arrests made by the warden is of secondary importance.

In the more progressive states, emphasis now is on prevention of violation, rather than on detection. Prevention is brought about mainly through these two activities:

1. A sound, practical fact-finding program to determine which laws are really needed. (A great many people have been arrested at times past for doing the right thing conservation-wise).
2. A sound, effective education program aimed at enlightening the public on the need for the regulations. Once the public recognizes the need, violations will decrease.

The change in concept, from emphasis on detection to emphasis on prevention, imposes one basic problem. The old-time fish and game "cop" who enjoys making arrests is necessarily anti-social. There is serious question as to his effectiveness as an educator. The modern warden must be able to educate the public effectively, arresting only the habitual violator who can't be educated. Too, he can do a good job only if the laws are sensible. In some states, the intelligent warden knows that some regulations do more harm than good. He can't sell, effectively, something which he knows is wrong.

The warden is an important figure in fish and game conservation. He will be an even more valuable figure when he has only properly tested regulations to enforce, and when he directs most of his activities toward prevention, less toward detection. In some instances, this change in program may call for a change in personnel because the temperaments of "cops" and of "preventers" and "educators" may differ somewhat.

THE IDEAL SITUATION

Ideally, a state should have only those sport fishing regulations for which there is proven need. We may need to impose emergency regulations at times, without proof of the need for them, but in those instances we should immediately institute a fact-finding program which will demonstrate whether or not the regulation is proper.

Ideally, too, we should have an effective educational program which will generate respect for regulations. Enforcement men should play an important role in the educational program.

Interestingly enough, in those states where these methods (fact-finding and education) are used, the laws are being simplified and reduced in number, and the amount of violation seems to be decreasing rather decidely. In general, we're much more rational about the regulation question than we were twenty years ago. As a result, in some areas, we now have more and improved fishing, and a growing respect for the regulations.

One of the most encouraging features in modern fish conservation has been the change in the warden. In the more progressive states, these men are now carefully selected on the basis of qualifications for the job. In these states the political warden has disappeared. Here, the modern enforcement man is a highly respected individual and is well versed in conservation problems generally. He attends special schools at regular intervals, so that he can keep up on modern developments, and can compare experiences with the other wardens. He's basically an educator. There is a growing and proper tendency to refer to him as a ranger or as a conservation or fish and game "officer," not as a "warden." He's a far different individual from the old-time fish and game "cop." He plays an extremely important role in promoting improved fishing and hunting. He's interested basically in preventing violation of the regulations, but his field of active interest extends far beyond mere enforcement.

One state has separate fish wardens and game wardens. A patronage dispenser could see plenty of merit in having separate wardens for fish and for game; it creates more jobs. But, most people who are genuinely interested in conservation would probably regard such duplication as an unnecessary extravagance.

Though there are exceptions, the regulation picture has been improving immensely - with greatly improved laws, with emphasis on prevention of violation, and with high caliber officers on the job. The regulation picture is a very encouraging one.

COBB ISLAND (*Continued from page 7*)

can accomplish. We are sure that Dr. Chapman would rejoice at its transformation, from those dark bloody days of this century's birth, to its present thriving bird colonies that now live in undisturbed peace and beauty - a symbol of our deepening appreciation of American wildlife. Long may the island and its bird citizens live!

***"Sandy" (Alexander Sprunt, IV), who has been Assistant Pacific Coast Representative of the National Audubon Society, 2426 Bancroft Way, Berkeley 4, California, is leading the new Audubon Wildlife Tour, in the winter of 1954-55 from West Palm Beach, Florida. See "THE PRESIDENT REPORTS TO YOU," January-February 1955 issue. — The Editors.**

Virginia Faces Serious Stray Dog Problems

Enormous damage is done every year by stray dogs to ground-nesting birds, rabbits, deer and other game. Destruction of farm animals by free-running dogs is perhaps even more devastating.

Parke C. Brinkley, Virginia's Commissioner of Agriculture, recently sounded this warning:

"Stray dogs are a constant threat to Virginia's sheep, cattle and poultry industries, which together make up over $170,000,000 in agricultural income. The depredations of loose-running dogs have kept Virginia sheep numbers far below the level that our natural advantages of soil and climate would indicate, and have made sheep raising impossible in many areas of the state.

"In our concentrated poultry areas, stray dogs cost flock owners thousands of dollars each year in an industry where modern mass production techniques have made profit margins slim.

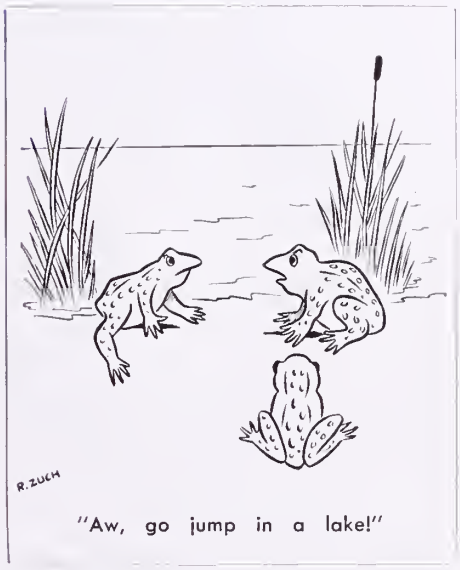
"Stray dogs have been and still are the chief means of spreading rabies among our foxes and other forms of wildlife, with the result that about 700 known head of cattle a year die of this disease contracted from these sources."

The total number of stray dogs destroyed last year was 44,626, and there is every indication that Virginia's dog population is steadily increasing.

If a system could be worked out whereby qualified men could be employed to devote their entire time to handling dog problems and the enforcement of state, county and municipal regulations and ordinances, hundreds of thousands of dollars worth of livestock could be saved to landowners and farmers annually.

Essays on Fish Laws Pay Off Fine

Two juveniles, charged with fishing out of season, were fined $25 in Pulaski Trial Justice Court, but Judge John E. B. Deeds told them that in lieu of the fine they could write essays on the importance of preserving fish out of season. The essays must be turned over to Judge Deeds for approval.



"Aw, go jump in a lake!"

Virginian Places in N. F. A. A. Prize Buck Contest

The 8-point buck bagged with bow and arrow by Jay Hill, of Richmond, on Hog Island last November placed eighth in the National Field Archery Association's fourth annual prize buck contest. This year's contest far outdistanced any other in number of entries and size of antler spreads.

Winning entry this year was a 6-point (western count) mule buck killed by Mrs. Sharlene Sieloff, of Mt. Clemens, Mich., during a honeymoon trip in Wyoming. The contest judges tallied 82½ points for this buck, way ahead of the winning scores for either the white-tail or the black-tail divisions. First place white-tail was shot by Harry Scalos, of Richmond, Kentucky.

Fishing vs. Delinquency

The Right Reverend Monsignor Nicholas H. Wagner, Director of Father Flanagan's Boys Town in Nebraska says:

"Boys who like to go fishing seldom go bad. Fishing is a sport which brings the boy into close communion with nature, with its beauty and mystery which quicken the imagination and strengthen the appreciation of those values which are cosmic and eternal."

Forty Bird Feeders Made by 4-H Boys

Boys enrolled in the 4-H camp on Jamestown Island made 40 self-filling bird feeders, dipped in wood preservative, which they will put up in Hanover and Henrico counties. Construction of the feeders was one of the conservation projects undertaken by the group under the direction of County Agricultural Agent Charles W. Sanders.

Who Belled the Turkey Buzzard?

"Believe it or not," writes William F. Merrilees, acting forest supervisor of the George Washington National Forest, "A white pine blister rust control mapping crew was working recently in the Feedstone Mountain section of Rockingham County. The men kept hearing a bell and commented on how a sheep could have strayed into that remote area."

Field Leader Ted Rodamer and his men were still more puzzled when they realized that the sound was coming from overhead. "The mystery was solved" says Merrilees "when they reached the top of the mountain. A turkey buzzard was flying around with a bell plainly visible around its neck, tingling with every moment of the bird."

But who belled the turkey buzzard? That is still a mystery.

Protests to Senate against Using Parramore Island for Navy Practice Bombing

The Game Commission's Executive Director I. T. Quinn and Congressman Edward J. Robeson, Jr., of the First District of Virginia and six Eastern Shoremen appeared before the Armed Services Committee of the U. S. Senate in June to protest the acquisition by the Navy for practice bombing of Parramore Island on the Atlantic side of the Eastern Shore.

This protest was backed up by further objections expressed later by both the senior Senator from Virginia, Harry F. Byrd, and the junior Senator A. Willis Robertson.

Quinn strongly protested the acquisition of the island by the Navy on the grounds that the existence of all wildlife would be threatened if a target area were established and jets flying over the island at the proposed height of 50 feet or less.

William King Mapp stated that the toll road authorized since 1951 had been unable to sell bonds and prospects of building the road were not good.

Elwood Gaskins, of the Wachapreague Packing Company submitted to the Committee a petition signed by residents in that area, objecting to Navy use, and showed a map of oyster grounds where work would be suspended by low-flying jets. He also pointed out that many sports guides whose livelihood depended on fishing parties were among those strongly opposed to Navy purchase of the island.

Milton T. Hickman presented petitions of protest from the town of Quinby, the Harbor Committee of Quinby, the town of Painter and surrounding area. Hickman said that, as vice-president of the Eastern Shore Chamber of Commerce which was seeking the economic progress of the area, he believed that in conjunction with the proposed Chesapeake Bay Bridge Tunnel and the development of the New Jersey Garden Parkway, the loss of additional ocean frontage would be a tremendous blow to the entire state's tourist appeal.

George Walter Mapp, Jr., submitted a map of Accomack and Northampton counties, showing 12 islands on the ocean, of which six have already been taken for military purposes. Of the remaining six, only three would lend themselves to development similar to that of beach resorts in other states.

William Burton cited the adverse effects on the commercial fisheries. J. F. Jones emphasized the loss of tax revenues for the Shore were its future development subjected to the further hazards of low-flying jets.

"Howard, dear . . . You're going to beat your father at fishing, yet!"

Northington Nature Camp Closes

Mrs. H. L. Eichelberger, of Lexington, has sent us regretfully the news that the Northington Nature Camp could not open for its 10th season this summer, disappointing the many children who had planned to attend this year. The 4-H camp site on Holiday Lake, near Appomattox, was not available for the two-week program this year.

The camp, sponsored by the Shenandoah Chapter, V.F.W.C., under its directors, Mr. and Mrs. Russell Cummings, of Lexington, has each year had about a hundred boys and girls enrolled, between 10 and 15 years of age.

For the first four years, Mrs. J. Frank Key, of Buena Vista, was the director. The camp was named for Mrs. O. F. Northington, then president of the Virginia Federation of Women's Clubs who suggested starting the camp as a living memorial to the dead of World War II. Nearly a thousand children have attended the camp since its beginning.

Virginia Wildlife Federation Board Meeting

The Rockingham Game and Fish Association were hosts at the spring board meeting of the Virginia Wildlife Federation in Harrisonburg. Dr. O. F. Foley and Bruce Slaven did the honors and there were many guests, including Commissioner Tom Herring, Chief of the Game Division Chester Phelps, Mr. and Mrs. Charles Callison, Andy Anderson, Superintendent of the Jefferson National Forest and a number of his men, Leo Young, Editor of the West Virginia paper, *Sportsmen Unlimited,* State Forester George Dean and members of his staff.

A feature of the meeting was a talk by Charles H. Callison, executive secretary of the National Wildlife Federation, who described the progress of various conservation measures in Congress.

Major items of business were brought up by Callison and included resolutions endorsing the Metcalf Bill to use more of the income from the national forests for recreational facilities, approving HR 37 to earmark 40 percent of duck stamp money for buying marsh land, endorsing a plan for the distribution of $13,500,000 in surplus Pittman-Robinson funds, requesting Congress to revive and strengthen the Co-ordination Act, recommending the renewing and strengthening of the federal Pollution Control Act, and urging legislation cleaning up the abuses of the old Mining Claim Acts. The state federation went on record as backing up the national's opposition to anti-gun legislation.

State Forester George Dean spoke on the timber situation and warned that Virginia is seriously overcutting forest, especially in the Piedmont. Present inducements for reseeding are inadequate, he said.

Chief of the Game Division Chester Phelps talked on the game situation and said the outlook was good, except for turkeys. He reported that when there is an average of 1.5 bucks per square mile, biologists have learned that the herd has usually reached a point where some bucks should be harvested.

Big Haul at Claytor Lake

Special Services Officer Joe Coggin has sent in a report with pictures to prove that Charlie Adkins and J. J. Bashan, both of Route 1, Shawsville, struck it lucky on a trot line. They landed 61 pounds, 7 ounces of heavyweights and a host of smaller catfish during their three-day fishing expedition to the headwaters of Claytor Lake.

Claytor Lake, also known for good bass, bream and crappie fishing, supports a large population of catfish and fishing surveys indicate that they are not taken in the quantity they should be by fishermen.

County Game Warden Hunter Perry with illegal fish poacher's traps.

Fish Poaching That Didn't Pay

Russell County Game Warden Hunter Perry has fish poachers' nets decorating his back yard as the result of a confiscation which gave local fish poaching a blow in court.

Obviously good fish management practices and respect for Virginia's fishing laws played no part in the minds of these fellows who tried to "catch 'em all" with a trap constructed to prevent fish from going either up or down stream without getting caught.

John Bryant Joins U. S. Fish and Wildlife Service

John E. Bryant, manager of the Hog Island State Waterfowl Refuge for the past three years, has resigned to take a position with the United States Fish and Wildlife Service. He will be stationed at Southampton, Long Island, where he will work on waterfowl problems in that area. While Bryant was in charge of Hog Island, two major impoundments were completed and work was underway on a third. Millet and other waterfowl foods had been planted to provide a winter feeding ground for geese and ducks.

Bryant received his B. S. degree from the University of California and his M. S. from Utah State. He was connected with the Nevada and California game commissions before coming to the Virginia Commission.

Archers in particular were appreciative of Bryant's helpfulness and interest which did much to make the first special bowhunting season on Hog Island such a success last fall.

Bryant has been succeeded by Warren Hassell Taylor, a native of Comers Rock and graduate of Virginia Polytechnic Institute. Taylor has been transferred from a student position with the Wildlife Cooperative Unit at Blacksburg to the position of game biologist with the Game Commission. Three months of his student work were done on Hog Island, so he is already familiar with the refuge where he has taken up his new duties.

Taylor served in the Navy, 1943-46 and again 1952-54. He is married and has one son.

New Signs Explain Wildlife Project

Game Biologist Supervisor J. E. Thornton tells us the Commission has received delivery on a "number of metal signs for use on its National Forest Cooperative Wildlife Project. The signs, with black letters on a yellow background, represent an attempt to keep the public informed on what is being done on the George Washington and Jefferson National Forests in the way of environmental improvements for wildlife."

The six different signs will be placed on or next to improvements on the ground.

It is hoped that the signs will inform hunters, fishermen, campers and others who use the National Forest about what the Commission of Game and Inland Fisheries and the United States Forest Service are doing with the sportsman's dollar.

Photo Ozzie Worley Roanoke World-News

Harry Foley with a heavyweight rainbow trout taken from the Mayo River.

Heavyweight Champ

An eight and a quarter pound rainbow trout tugging on the end of an 8 pound test braided line kept Mr. Harry Foley and his spinning rig busy for 20 exciting minutes before he finally landed the lunker.

Mr. Foley, of Stuart, Virginia, caught the trout in the Mayo River near Stuart, using minnows for bait. The rainbow measured 19 inches in circumference and 7½ inches across the widest part. Using the fairly accurate length criterion for aging the fish, he would be around 6 or 7 years old since he measured 25¼ inches long.

Wildlife Questions and Answers

Ques.: Is it against the law to gravel for mud turtles in Virginia without a license?

Ans.: Yes, it is illegal and taking turtles in various ways may require several licenses. If you fish for turtles with hook and line, you must have a fishing license. If you trap them, you are required to have a trapping permit. If you take, capture or kill by any other means, off your own premises, with the landowner's permission, you need a hunting license.

Ques.: Can you tell me what restrictions there are on types of bows and arrows to be used for hunting in Virginia? Also, if there will be an archery pre-season again this fall?

Ans.: No crossbows nor poisoned arrows may be used for hunting in Virginia. These are the only restrictions statewide, but it will be well to check on local regulations for special areas where bowhunting may be allowed. In cases where permits are required, applicants will be supplied with a copy of regulations. There will be an archery pre-season this year, November 1-10.

Ques.: Have pears ever been grown successfully on a commercial scale in southeastern Virginia?

Ans.: Yes, the pear industry in southeastern Virginia reached a boom stage in 1880, but was suddenly snuffed out by the ravages of fire blight, according to S. A. Wingard in the chapter on plant pathology in "The James River Basin."

Ques.: Please interpret for me the meaning of the law on gang or snag hooks as against artificial lures and baited hooks in trout streams.

Ans.: The law means that when fishing in streams stocked with trout, fish must be caught on a line or with rod and reel, or a pole held in the hand and not snagged with a necked hook or hooks.

Ques.: Is it true that the eyes of an ostrich are bigger than its brain?

Ans.: It is true that the eyes of an ostrich often weigh more than twice the weight of its brain.

Ques.: Can you sample a fishing spot by fishing your lure at various depths?

Ans.: Yes, according to Ed Howard in "The Fisherman" magazine. It's a good idea to retrieve three or four times at one level and then drop down a few feet for three or four more retrieves. Begin by reeling as soon as the spinner is in the water, he advises. For the next series of casts, let it sink while you count to three. If you hit nothing at this level, try another series, counting to six. Keep it up until you hit the bottom. If this hasn't dene any good, it's time to try a new spot.

Ques.: What is the difference in diet of the tadpole and the adult frog?

Ans.: The tadpole feeds mainly on algae and other vegetation, supplemented by a few small aquatic insects and other animal food. The adult frog is entirely carnivorous and his menu is principally insects, small crayfish, snails, worms, spiders and most anything his jaws can close upon satisfactorily.

Ques.: Are smallmouth bass native to the Potomac River?

Ans.: No, the initial release of smallmouths was made near Cumberland, Maryland, about 1854, after being hauled across the mountains in the water tender of a Baltimore and Ohio locomotive.

Ques.: When was spraying for disease control in plants first used in Virginia?

Ans.: The first printed use of the term "spraying" in Virginia was in 1888. By 1892 Bordeaux spraying was common among grape growers, especially in Albemarle County. In that same year, William B. Alwood, horticulturist and entomologist of the agricultural experiment station at Blacksburg, published the first full spraying program for orchards in Virginia. The first spray calendar appeared two years later.

Ques.: What kind of traps are generally used for taking muskrats?

Ans.: There are very few jagged edge traps used in Virginia at the present time. The majority are smooth edged and most traps in the marshes are set under water. Float traps are prohibited for taking muskrats. The law also requires that traps be visited once a day and be not set where they are likely to injure persons, stock or poultry.

Ques.: Has the use of electric fences proved effective in the prevention of deer damage?

Ans.: A fence of this type constructed in the Northern Neck has been practically 100% effective. Vermont has under way extensive experiments in this field and possibly you could secure a copy of that state's bulletin on the subject.

Ques.: Have you any idea how many people were bitten by poisonous snakes in Virginia last year?

Ans.: The Tidewater Association of Natural History reported 119 victims of copperhead bite, 14 bitten by rattlesnake and one by a cottonmouth moccasin. That makes a total of 134 victims of poisonous snakes, but there was no fatality.

Ques.: Can the San Juan rabbit be brought into Virginia?

Ans.: At its meeting on March 11 and 12, 1955, the Commission of Game and Inland Fisheries declared the San Juan rabbit an undesirable species and, under the law, can prevent its importation into the state by refusing to issue permits for such importation.

Ques.: Why do otters swim upstream when hunting for fish?

Ans.: It is believed that otters swim upstream when hunting for fish because the fish nearly always face the current of a stream while resting or waiting for food and the approach is therefore easier from behind.

VBA State Field Archery Tournament

Photos by Margo Zink

Even driving rain couldn't keep the archers from trying their luck on the wooded, hilly range where some targets looked more like ski jumps.

Women's champion Pat Hamilton and past VBA President Jim Oglethorpe seem to be about the only archers not anxious about posting of final scores.

Davy Crockett would have thought the "varmints" were back in the wooded hills around Fishersville if he had happened on the range of the Augusta Archers during the two-day State Field Archery Tournament, June 11 and 12. The annual event is sponsored by the Virginia Bowhunters Association, of which Dr. McKeldin Smith is president.

Despite a rainy start which made unwaterproofed arrows lie back as close as a bobcat's ears, 133 archers registered for the tournament and went the rounds of 112 field and hunting targets.

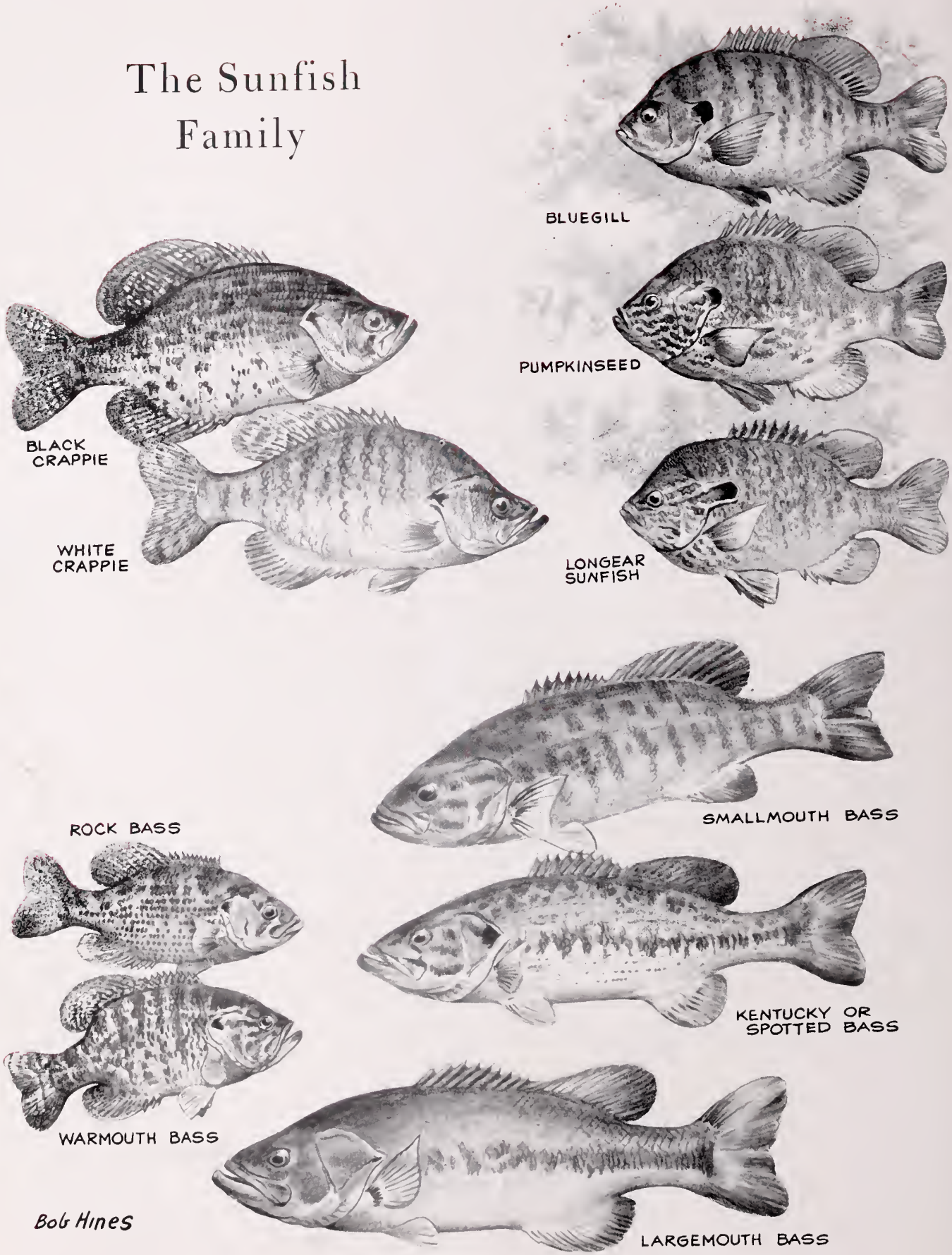
Pat Hamilton, secretary of the Richmond Archers, successfully defended her title of women's state champion in the women's expert class, with a score of 1,163. However, 25-year-old Lowell Roberson, of Roanoke's Sherwood Archers, took the men's state title away from defending champion Luke Berry, of the Arlington-Fairfax-Alexandria Archers, with a score of 1,378 to Berry's 1,356. Rock Ramsey, of Colonial Heights Archers, was third with 1,325.

In expert B class for men, Thomas C. Wall, R. L. Green, both of Colonial Heights, and Garrett E. McCormick, of Augusta Archers, took first, second and third. Jack Cantwell (Chesapeake Bowmen) took first place for bowmen, followed by Walter Harris (Colonial Heights) and Sam Rankin (Augusta). The three places in archer class went to Robert Taylor (Princess Anne Bowmen), who also won a "20" pin, Jess Beam (Augusta) and Ernie Hadash (Langley Field Archers). Robert Price and William Duknovsky, both from Langley, and Roy Claytor (Augusta) took novice honors.

In the Women's Division, winning bowmen were Sally Stollard (Sherwood), Edna Gillespie (Colonial Heights) and Frances Lilley (Augusta). First three places in archer class went to Phyllis Ellis (Colonial Heights), Estelle Goodbar (Blue Ridge Archers) and Esther Mays (Colonial Heights). The other women's trophies went to Margaret Hulvey (Augusta), Dorothy Troubetzkoy (Richmond) and Margo Zink (Augusta).

All Boys Junior Division winners were Augusta Archers: Dickie Coyner, Fred Stubblefield Jr., and Clinton Maybush, in that order. Winning Junior Girls were Linda Taylor (Loudoun Bowhunters) and Nancy Clason (Warwick).

At VBA banquet, Game Warden H. I. Todd; Pete Hanion, U. S. Forest Service; Supervising Warden C. L. Miller; Jim Engle; Commissioner "Uncle Tom" Herring; Mrs. Donald Fauber; A. H. Anderson, George Washington National Forest, Supervisor; Donald Fauber, Big Levels Refuge Manager.

Field captain Fred Lilley, President of Augusta Archers Jess Beam and President of VBA Dr. McKeldin Smith wait to reward lucky bowmen.

The Sunfish Family